

IN THE CLAIMS:

Please amend Claims 1-55 as follows:

1. (Canceled)
2. (Canceled)
3. (Canceled)
4. (Canceled)
5. (Canceled)
6. (Currently Amended) An expression vector comprising the nucleotide sequence of SEQ. ID. NO: 1 operatively associated with a regulatory nucleotide sequence containing transcriptional and translational regulatory information that controls expression of the nucleotide sequence in a host cell wherein SEQ. ID. NO: 1 is expressed under abiotic stress conditions ~~of 4 °C, salinity or drought~~.
7. (Currently Amended) A genetically engineered host cell comprising the nucleotide sequence of SEQ. ID. NO: 1 wherein SEQ. ID. NO: 1 is expressed under abiotic stress conditions ~~of 4 °C salinity or drought~~ in the host cell wherein the host cell is bacterial or plant cell.
8. (Currently Amended) A genetically engineered host cell comprising the nucleotide sequence of SEQ. ID. NO: 1 operatively associated with a regulatory nucleotide sequence containing transcriptional and translational regulatory information units that controls expression of the nucleotide sequence in the host cell wherein SEQ. ID. NO: 1 is expressed under abiotic stress conditions ~~of 4 °C salinity or drought~~ in the host cell is bacterial or plant cell.

9. (Currently Amended) An expression vector genetically engineered host cell of claim 6 & wherein the abiotic stress conditions consist of low temperature, salinity or drought host cell is a bacterial cell.

10. (Currently Amended) A genetically engineered host cell of claim 7 or 8 wherein the abiotic stress conditions consist of low temperature, salinity or drought host cell is a plant cell.

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Canceled)

21. (Canceled)

22. (Canceled)

23. (Canceled)

24. (Canceled)
25. (Canceled)
26. (Previously Amended) An engineered host cell of claim 8 in which the host cell is a cell line.
27. (Canceled)
28. (Currently Amended) A transgenic plant transformed by a nucleotide sequence that encodes a polypeptide consisting of the amino acid sequence of SEQ. ID. NO: 2 wherein over-expression of SEQ. ID. NO: 2 in the plant results in increased tolerance of abiotic stress compared to a wild-type plant ~~wherein the abiotic stress consist of temperatures, of °C.~~
29. (Canceled)
30. (Canceled)
31. (Canceled)
32. (Currently Amended) A transgenic plant transformed by a nucleotide sequence that encodes a polypeptide consisting of the amino acid sequence of SEQ. ID. NO: 2 operatively linked to a regulatory sequence that controls gene expression so that SEQ. ID. NO: 2 is over-expressed in the plant compared to a wild-type plant under abiotic stress conditions ~~of 4 °C.~~
33. (Canceled)
34. (Canceled)
35. (Canceled)

36. (Currently Amended) A transgenic plant of claim 27 or 28 wherein the abiotic stress is selected from the group consisting of low temperature, of 4 °C and salinity or drought.

37. (Canceled)

38. (Currently Amended) A seed produced by a transgenic plant of claim 27, 28, 31 or 32 ~~wherein said seed comprises said nucleic acid encoding the MAPK5 ortholog.~~

39. (Canceled)

40. (Canceled)

41. (Canceled)

42. (Currently Amended) A method for enhancing tolerance to abiotic stress in a plant comprising:

- transforming a plant with SEQ. ID. NO: 2 a MAPK5 nucleic acid sequence wherein a MAPK5 protein is expressed in the plant, ~~wherein the MAPK5 ortholog is isolated from the Gramineae family, and wherein the MAPK5 protein comprises substantially the amino acid sequence of OsMAPK5;~~
- treating the a plant with an abiotic stress;
- isolating MAPK5 protein from the plant;
- detecting for MAPK5 activity; and
- evaluating the increase or decrease in MAPK5 activity in the transformed plant whereby the increase in MAPK5 activity indicates the increase tolerance to abiotic stress in the transformed plant compared to the wild-type plant ~~wherein the abiotic stress consists of low temperatures of 4 °C.~~

43. (Canceled)

44. (Previously Amended) The method of claim 42 wherein the isolating step comprises immunospecifically binding MAPK5 protein to an MAPK5 antibody.

45. (Canceled)

46. (Canceled)

47. (Canceled)

48. (Canceled)

49. (Canceled)

50. (Canceled)

51. (Currently Amended) An expression vector comprising a nucleotide sequence that encodes a polypeptide consisting of the amino acid sequence of SEQ. ID. NO: 2 or the complement of the nucleotide sequence SEQ. ID. NO: 1 operatively associated with a regulatory nucleotide sequence containing transcriptional and translational regulatory information that control expression of the nucleotide sequence in a host cell wherein SEQ. ID. NO: 1 is expressed under abiotic stress conditions ~~of 4 °C~~.

52. (Currently Amended) A genetically engineered host cell comprising a nucleotide sequence that encodes a polypeptide consisting of the amino acid sequence of SEQ. ID. NO: 2 or the complement of the nucleotide sequence of SEQ. ID. NO: 1 wherein SEQ. ID. NO: 1 is expressed under abiotic stress conditions ~~of 4 °C~~ in the host cell wherein the host cell is bacterial or plant cell.

53. (Currently Amended) A genetically engineered host cell comprising a nucleotide sequence that encodes a polypeptide consisting of the amino acid sequence of SEQ. ID. NO: 2 or the complement of the nucleotide sequence of SEQ. ID. NO: 1 operatively associated with a regulatory nucleotide sequence containing transcriptional and translational regulatory units that control expression of the nucleotide sequence in the host cell wherein SEQ. ID. NO: 1 is expressed under abiotic stress conditions ~~of 4 °C~~ in the host cell wherein the host cell is bacterial or plant cell.

54. (Currently Amended) The expression vector ~~genetically engineered host cell~~ of claim 51 53 wherein the abiotic stress conditions consist of low temperature, salinity or drought ~~host cell is a bacterial cell~~.

55. (Currently Amended) The genetically engineered host cell of claim 52 or 53 wherein the host cell is plant or bacterial cell.